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Thermal explosion of an infinite plate under the non-symmetric boundary conditions of the third kind

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Abstract

The problem about thermal explosion of a plane reagent layer is analytically solved under the non-symmetric boundary conditions of the third kind. The critical Frank-Kamenetskij parameters are determined for general and particular cases. The calculation results are compared with published data. It is shown that the critical parameter values obtained by the direct and inverse methods do not coincide at small values of the Bio criterion and depend on the scale temperature.